PD45 Hydraulic Post Driver



USER MANUAL

Safety, Operation and Maintenance



New Britain, CT 06053
U.S.A.
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IMPORTANT

To fill out a Product Warranty Validation form, and for information on your warranty, visit Stanleyhydraulics.com and select the Company tab, Warranty. (NOTE: The warranty Validation record must be submitted to validate the warranty).

SERVICING: This manual contains safety, operation, and routine maintenance instructions. Stanley Hydraulic Tools recommends that servicing of hydraulic tools, other than routine maintenance, must be performed by an authorized and certified dealer. Please read the following warning.

⚠ WARNING

SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS TOOL.

REPAIRS AND / OR SERVICE TO THIS TOOL MUST ONLY BE DONE BY AN AUTHORIZED AND CERTIFIED DEALER.

For the nearest authorized and certified dealer, call Stanley Hydraulic Tools at the number listed on the back of this manual and ask for a Customer Service Representative.

SAFETY SYMBOLS

Safety symbols and signal words, as shown below, are used to emphasize all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to equipment.

⚠	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠ DANGER	This safety alert and signal word indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	This safety alert and signal word indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	This signal word indicates a potentially hazardous situation which, if not avoided, may result in property damage.
NOTICE	This signal word indicates a situation which, if not avoided, will result in damage to the equipment.
IMPORTANT	This signal word indicates a situation which, if not avoided, may result in damage to the equipment.

Always observe safety symbols. They are included for your safety and for the protection of the tool.

LOCAL SAFETY REGULATIONS

Enter any local safety regulations here. Keep these instructions in an area accessible to the operator and maintenance personnel.

SAFETY PRECAUTIONS

Tool operators and maintenance personnel must always comply with the safety precautions given in this manual and on the stickers and tags attached to the tool and hose.

These safety precautions are given for your safety. Review them carefully before operating the tool and before performing general maintenance or repairs.

Supervising personnel should develop additional precautions relating to the specific work area and local safety regulations. If so, place the added precautions in the space provided in this manual.

The PD45 Hydraulic Post Driver will provide safe and dependable service if operated in accordance with the instructions given in this manual. Read and understand this manual and any stickers and tags attached to the tool and hoses before operation. Failure to do so could result in personal injury or equipment damage.



- Operator must start in a work area without bystanders. The operator must be familiar with all prohibited work areas such as excessive slopes and dangerous terrain conditions.
- Establish a training program for all operators to ensure safe operations.
- Do not operate the tool unless thoroughly trained or under the supervision of an instructor.
- Always wear safety equipment such as goggles, head protection, and safety shoes at all times when operating the tool.
- Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Do not operate this tool without first reading the Operation section of this manual.
- Do not install or remove this tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
- Never operate the tool if you cannot be sure that underground utilities are not present. Underground electrical utilities present an electrocution hazard. Underground gas utilities present an explosion hazard. Other underground utilities may present other hazards.
- Do not wear loose fitting clothing when operating the tool. Loose fitting clothing can get entangled with the tool and cause serious injury.
- Supply hoses must have a minimum working pressure rating of 2500 psi/175 bar.
- Be sure all hose connections are tight.
- The hydraulic circuit control valve must be in the **OFF** position when coupling or uncoupling the tool. Wipe all couplers clean before connecting. Failure to do so may result in damage to the quick couplers and cause overheating. Use only lint-free cloths.
- Do not operate the tool at oil temperatures above 140 °F/60 °C. Operation at higher oil temperatures can cause operator discomfort and may cause damage to the tool.
- Do not operate a damaged, improperly adjusted, or incompletely assembled tool.
- To avoid personal injury or equipment damage, all tool repair, maintenance and service must only be performed by authorized and properly trained personnel.
- Do not exceed the rated limits of the tool or use the tool for applications beyond its design capacity.
- Always keep critical tool markings, such as labels and warning stickers legible.
- Always replace parts with replacement parts recommended by Stanley Hydraulic Tools.
- Check fastener tightness often and before each use daily.
- **Warning:** Use of this tool on certain materials during demolition could generate dust potentially containing a variety of hazardous substances such as asbestos, silica or lead. Inhalation of dust containing these or other hazardous substances could result in serious injury, cancer or death. Protect yourself and those around you. Research and understand the materials you are cutting. Follow correct safety procedures and comply with all applicable national, state or provisional health and safety regulations relating to them, including, if appropriate arranging for the safe disposal of the materials by a qualified person.

TOOL STICKERS & TAGS

PD45 POST DRIVER
FLOW: 26–34 LPM/7–9 GPM
PRESS: 105–140 BAR
1500–2000 PSI
ACCUMULATOR CHG:
42 BAR/600 PSI
NITROGEN

STANLEY®
Stanley Hydraulic Tools
Division of the Stanley Works
3810 S.E. NAEF ROAD
Milwaukie, Oregon 97267 U.S.A.

15197
PD45 Name Tag

DANGER

LOCATE UNDERGROUND SERVICES BEFORE USING THIS TOOL. PERSONAL INJURY OR DEATH MAY RESULT FROM CONTACT WITH OR DAMAGE TO UNDERGROUND SERVICES SUCH AS ELECTRICAL, GAS, OR FLAMMABLE LIQUID LINES.

BE AWARE OF OVERHEAD HAZARDS. CONTACT WITH ENERGIZED LINES MAY CAUSE SEVERE PERSONAL INJURY OR DEATH. CONTACT WITH OBSTRUCTIONS MAY MAKE HANDLING OF THE TOOL DIFFICULT AND LOSS OF CONTROL MAY CAUSE INJURY.

19693
Danger Sticker

NOTE:

THE INFORMATION LISTED ON THE STICKERS SHOWN, MUST BE LEGIBLE AT ALL TIMES.

REPLACE DECALS IF THEY BECOME WORN OR DAMAGED. REPLACEMENTS ARE AVAILABLE FROM YOUR LOCAL STANLEY DISTRIBUTOR.

The safety tag (P/N 15875) at right is attached to the tool when shipped from the factory. Read and understand the safety instructions listed on this tag before removal. We suggest you retain this tag and attach it to the tool when not in use.

D A N G E R

1. FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.

   BEFORE USING HOSE **LABELED AND CERTIFIED AS NON-CONDUCTIVE** ON OR NEAR ELECTRIC LINES BE SURE THE HOSE IS **MAINTAINED AS NON-CONDUCTIVE**. THE HOSE SHOULD BE REGULARLY TESTED FOR ELECTRIC CURRENT LEAKAGE IN ACCORDANCE WITH YOUR SAFETY DEPARTMENT INSTRUCTIONS.

2. A HYDRAULIC LEAK OR BURST MAY CAUSE OIL INJECTION INTO THE BODY OR CAUSE OTHER SEVERE PERSONAL INJURY.
   A. **DO NOT** EXCEED SPECIFIED FLOW AND PRESSURE FOR THIS TOOL. EXCESS FLOW OR PRESSURE MAY CAUSE A LEAK OR BURST.
   B. **DO NOT** EXCEED RATED WORKING PRESSURE OF HYDRAULIC HOSE USED WITH THIS TOOL. EXCESS PRESSURE MAY CAUSE A LEAK OR BURST.
   C. CHECK TOOL HOSE COUPLERS AND CONNECTORS DAILY FOR LEAKS. **DO NOT** FEEL FOR LEAKS WITH YOUR HANDS. CONTACT WITH A LEAK MAY RESULT IN SEVERE PERSONAL INJURY.

I M P O R T A N T

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.

TAG TO BE REMOVED ONLY BY TOOL OPERATOR.

SEE OTHER SIDE

D A N G E R

   D. DO NOT LIFT OR CARRY TOOL BY THE HOSES. DO NOT ABUSE HOSE. DO NOT USE KINKED, TORN OR DAMAGED HOSE.

3. MAKE SURE HYDRAULIC HOSES ARE PROPERLY CONNECTED TO THE TOOL BEFORE PRESSURING SYSTEM. SYSTEM PRESSURE HOSE MUST ALWAYS BE CONNECTED TO TOOL “IN” PORT. SYSTEM RETURN HOSE MUST ALWAYS BE CONNECTED TO TOOL “OUT” PORT. REVERSING CONNECTIONS MAY CAUSE REVERSE TOOL OPERATION WHICH CAN RESULT IN SEVERE PERSONAL INJURY.
4. DO NOT CONNECT OPEN-CENTER TOOLS TO CLOSED-CENTER HYDRAULIC SYSTEMS. THIS MAY RESULT IN LOSS OF OTHER HYDRAULIC FUNCTIONS POWERED BY THE SAME SYSTEM AND/OR SEVERE PERSONAL INJURY.
5. BYSTANDERS MAY BE INJURED IN YOUR WORK AREA. KEEP BYSTANDERS CLEAR OF YOUR WORK AREA.
6. WEAR HEARING, EYE, FOOT, HAND AND HEAD PROTECTION.
7. TO AVOID PERSONAL INJURY OR EQUIPMENT DAMAGE, ALL TOOL REPAIR MAINTENANCE AND SERVICE MUST ONLY BE PERFORMED BY AUTHORIZED AND PROPERLY TRAINED PERSONNEL.

I M P O R T A N T

READ OPERATION MANUAL AND SAFETY INSTRUCTIONS FOR THIS TOOL BEFORE USING IT.

USE ONLY PARTS AND REPAIR PROCEDURES APPROVED BY STANLEY AND DESCRIBED IN THE OPERATION MANUAL.

TAG TO BE REMOVED ONLY BY TOOL OPERATOR.

SEE OTHER SIDE

SAFETY TAG P/N 15875 (Shown smaller then actual size)

HOSE TYPES

The rated working pressure of the hydraulic hose must be equal to or higher than the relief valve setting on the hydraulic system. There are three types of hydraulic hose that meet this requirement and are authorized for use with Stanley Hydraulic Tools. They are:

Certified non-conductive — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *Hose labeled **certified non-conductive** is the only hose authorized for use near electrical conductors.*

Wire-braided (conductive) — constructed of synthetic rubber inner tube, single or double wire braid reinforcement, and weather resistant synthetic rubber cover. *This hose is **conductive** and must never be used near electrical conductors.*

Fabric-braided (not certified or labeled non-conductive) — constructed of thermoplastic or synthetic rubber inner tube, synthetic fiber braid reinforcement, and weather resistant thermoplastic or synthetic rubber cover. *This hose is **not certified non-conductive** and must never be used near electrical conductors.*

HOSE SAFETY TAGS

To help ensure your safety, the following DANGER tags are attached to all hose purchased from Stanley Hydraulic Tools. DO NOT REMOVE THESE TAGS.

If the information on a tag is illegible because of wear or damage, replace the tag immediately. A new tag may be obtained from your Stanley Distributor.

THE TAG SHOWN BELOW IS ATTACHED TO “CERTIFIED NON-CONDUCTIVE” HOSE

DO NOT REMOVE THIS TAG

DANGER

1. FAILURE TO USE HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE WHEN USING HYDRAULIC TOOLS ON OR NEAR ELECTRIC LINES MAY RESULT IN DEATH OR SERIOUS INJURY.

   FOR PROPER AND SAFE OPERATION MAKE SURE THAT YOU HAVE BEEN PROPERLY TRAINED IN CORRECT PROCEDURES REQUIRED FOR WORK ON OR AROUND ELECTRIC LINES.

2. BEFORE USING HYDRAULIC HOSE LABELED AND CERTIFIED AS NON-CONDUCTIVE ON OR NEAR ELECTRIC LINES. WIPE THE ENTIRE LENGTH OF THE HOSE AND FITTING WITH A CLEAN DRY ABSORBENT CLOTH TO REMOVE DIRT AND MOISTURE AND TEST HOSE FOR MAXIMUM ALLOWABLE CURRENT LEAKAGE IN ACCORDANCE WITH SAFETY DEPARTMENT INSTRUCTIONS.

SEE OTHER SIDE

SIDE 1

DANGER

3. **DO NOT** EXCEED HOSE WORKING PRESSURE OR ABUSE HOSE. IMPROPER USE OR HANDLING OF HOSE COULD RESULT IN BURST OR OTHER HOSE FAILURE. KEEP HOSE AS FAR AWAY AS POSSIBLE FROM BODY AND **DO NOT** PERMIT DIRECT CONTACT DURING USE. CONTACT AT THE BURST CAN CAUSE BODILY INJECTION AND SEVERE PERSONAL INJURY.
4. HANDLE AND ROUTE HOSE CAREFULLY TO AVOID KINKING, ABRASION, CUTTING, OR CONTACT WITH HIGH TEMPERATURE SURFACES. **DO NOT** USE IF KINKED. **DO NOT** USE HOSE TO PULL OR LIFT TOOLS, POWER UNITS, ETC.
5. CHECK ENTIRE HOSE FOR CUTS CRACKS LEAKS ABRASIONS, BULGES, OR DAMAGE TO COUPLINGS IF ANY OF THESE CONDITIONS EXIST, REPLACE THE HOSE IMMEDIATELY. NEVER USE TAPE OR ANY DEVICE TO ATTEMPT TO MEND THE HOSE.
6. AFTER EACH USE STORE IN A CLEAN DRY AREA.

SEE OTHER SIDE

DO NOT REMOVE THIS TAG

SIDE 2

(Shown smaller than actual size)

THE TAG SHOWN BELOW IS ATTACHED TO “CONDUCTIVE” HOSE.

DO NOT REMOVE THIS TAG

DANGER

1. DO NOT USE THIS HYDRAULIC HOSE ON OR NEAR ELECTRIC LINES. THIS HOSE IS NOT LABELED OR CERTIFIED AS NON-CONDUCTIVE. USING THIS HOSE ON OR NEAR ELECTRICAL LINES MAY RESULT IN DEATH OR SERIOUS INJURY.
2. FOR PROPER AND SAFE OPERATION MAKE SURE THAT YOU HAVE BEEN PROPERLY TRAINED IN CORRECT PROCEDURES REQUIRED FOR WORK ON OR AROUND ELECTRIC LINES.
3. **DO NOT** EXCEED HOSE WORKING PRESSURE OR ABUSE HOSE. IMPROPER USE OR HANDLING OF HOSE COULD RESULT IN BURST OR OTHER HOSE FAILURE. KEEP HOSE AS FAR AWAY AS POSSIBLE FROM BODY AND **DO NOT** PERMIT DIRECT CONTACT DURING USE. CONTACT AT THE BURST CAN CAUSE BODILY INJECTION AND SEVERE PERSONAL INJURY.
4. HANDLE AND ROUTE HOSE CAREFULLY TO AVOID KINKING, CUTTING, OR CONTACT WITH HIGH TEMPERATURE SURFACES. **DO NOT** USE IF KINKED. **DO NOT** USE HOSE TO PULL OR LIFT TOOLS, POWER UNITS, ETC.

SEE OTHER SIDE

SIDE 1

DANGER

5. CHECK ENTIRE HOSE FOR CUTS CRACKS LEAKS ABRASIONS, BULGES, OR DAMAGE TO COUPLINGS IF ANY OF THESE CONDITIONS EXIST, REPLACE THE HOSE IMMEDIATELY. NEVER USE TAPE OR ANY DEVICE TO ATTEMPT TO MEND THE HOSE.
6. AFTER EACH USE STORE IN A CLEAN DRY AREA.

SEE OTHER SIDE

DO NOT REMOVE THIS TAG

SIDE 2

(Shown smaller than actual size)

Tool to Hydraulic Circuit Hose Recommendations

The chart to the right shows recommended minimum hose diameters for various hose lengths based on gallons per minute (gpm)/ liters per minute (lpm). These recommendations are intended to keep return line pressure (back pressure) to a minimum acceptable level to ensure maximum tool performance.

This chart is intended to be used for hydraulic tool applications only based on Stanley Hydraulic Tools tool operating requirements and should not be used for any other applications.

All hydraulic hose must have at least a rated minimum working pressure equal to the maximum hydraulic system relief valve setting.

All hydraulic hose must meet or exceed specifications as set forth by SAE J517.

Oil Flow		Hose Lengths		Inside Diameter		USE	Min. Working Pressure	
GPM	LPM	FEET	METERS	INCH	MM	(Press/Return)	PSI	BAR
Certified Non-Conductive Hose - Fiber Braid - for Utility Bucket Trucks								
4-9	15-34	up to 10	up to 3	3/8	10	Both	2250	155
Conductive Hose - Wire Braid or Fiber Braid -DO NOT USE NEAR ELECTRICAL CONDUCTORS								
4-6	15-23	up to 25	up to 7.5	3/8	10	Both	2500	175
4-6	15-23	26-100	7.5-30	1/2	13	Both	2500	175
5-10.5	19-40	up to 50	up to 15	1/2	13	Both	2500	175
5-10.5	19-40	51-100	15-30	5/8	16	Both	2500	175
5-10.5	19-40	100-300	30-90	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
10-13	38-49	up to 50	up to 15	5/8	16	Both	2500	175
10-13	38-49	51-100	15-30	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
10-13	38-49	100-200	30-60	3/4	19	Pressure	2500	175
				1	25.4	Return	2500	175
13-16	49-60	up to 25	up to 8	5/8	16	Pressure	2500	175
				3/4	19	Return	2500	175
13-16	49-60	26-100	8-30	3/4	19	Pressure	2500	175
				1	25.4	Return	2500	175

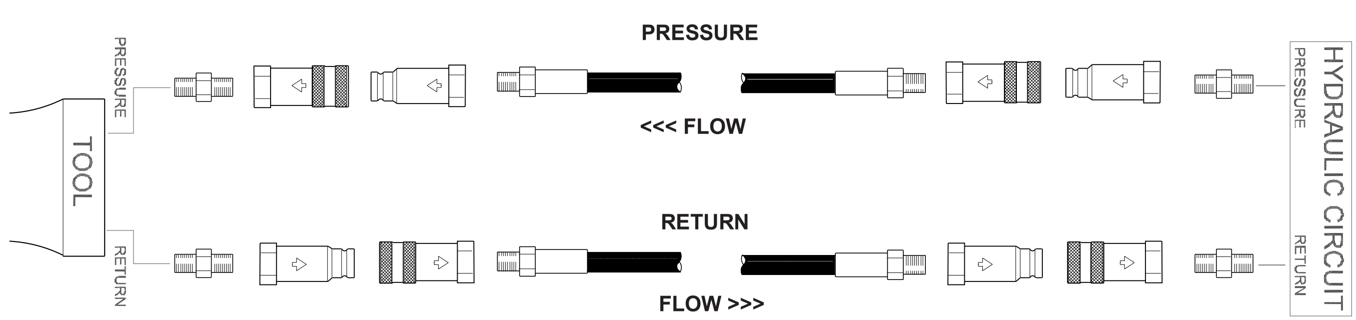


Figure 1. Typical Hose Connections

HTMA / EHTMA REQUIREMENTS

HTMA HYDRAULIC SYSTEM REQUIREMENTS	TOOL TYPE TYPE I	TYPE II	TYPE RR	TYPE III
Flow Range	4-6 gpm (15-23 lpm)	7-9 gpm (26-34 lpm)	9-10.5 gpm (34-40 lpm)	11-13 gpm (42-49 lpm)
Nominal Operating Pressure (at the power supply outlet)	1500 psi (103 bar)	1500 psi (103 bar)	1500 psi (103 bar)	1500 psi (103 bar)
System relief valve setting (at the power supply outlet)	2100-2250 psi (145-155 bar)	2100-2250 psi (145-155 bar)	2200-2300 psi (152-159 bar)	2100-2250 psi (145-155 bar)
Maximum back pressure (at tool end of the return hose)	250 psi (17 bar)	250 psi (17 bar)	250 psi (17 bar)	250 psi (17 bar)
Measured at a max. fluid viscosity of: (at min. operating temperature)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)	400 ssu* (82 centistokes)
Temperature: Sufficient heat rejection capacity to limit max. fluid temperature to: (at max. expected ambient temperature)	140° F (60° C)	140° F (60° C)	140° F (60° C)	140° F (60° C)
Min. cooling capacity at a temperature difference of between ambient and fluid temps	3 hp (2.24 kW) 40° F (22° C)	5 hp (3.73 kW) 40° F (22° C)	6 hp (5.22 kW) 40° F (22° C)	7 hp (4.47 kW) 40° F (22° C)

NOTE:
Do not operate the tool at oil temperatures above 140° F (60° C). Operation at higher temperatures can cause operator discomfort at the tool.

	TYPE I	TYPE II	TYPE RR	TYPE III
Filter Min. full-flow filtration Sized for flow of at least: (For cold temp. startup and max. dirt-holding capacity)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)	25 microns 30 gpm (114 lpm)
Hydraulic fluid Petroleum based (premium grade, anti-wear, non-conductive) Viscosity (at min. and max. operating temps)	100-400 ssu*	100-400 ssu* (20-82 centistokes)	100-400 ssu*	100-400 ssu*

NOTE:
When choosing hydraulic fluid, the expected oil temperature extremes that will be experienced in service determine the most suitable temperature viscosity characteristics. Hydraulic fluids with a viscosity index over 140 will meet the requirements over a wide range of operating temperatures.

*SSU = Saybolt Seconds Universal

EHTMA HYDRAULIC SYSTEM REQUIREMENTS	CLASSIFICATION B 15Lpm at 138bar EHTMA CATEGORY	C 20Lpm at 138bar EHTMA CATEGORY	D 30Lpm at 138bar EHTMA CATEGORY	E 40Lpm at 138bar EHTMA CATEGORY	F 50Lpm at 138bar EHTMA CATEGORY
Flow Range	3.5-4.3 gpm (13.5-16.5 lpm)	4.7-5.8 gpm (18-22 lpm)	7.1-8.7 gpm (27-33 lpm)	9.5-11.6 gpm (36-44 lpm)	11.8-14.5 gpm (45-55 lpm)
Nominal Operating Pressure (at the power supply outlet)	1870 psi (129 bar)	1500 psi (103 bar)	1500 psi (103 bar)	1500 psi (103 bar)	1500 psi (103 bar)
System relief valve setting (at the power supply outlet)	2495 psi (172 bar)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)	2000 psi (138 bar)

NOTE: These are general hydraulic system requirements. See tool specification page for tool specific requirements

OPERATION

PRE-OPERATION PROCEDURES

CHECK THE POWER SOURCE

1. Using a calibrated flowmeter and pressure gauge, check that the hydraulic power source develops a flow of 7–9 gpm/26–34 lpm at 2000 psi/140 bar.
2. Make certain the hydraulic power source is equipped with a relief valve set to open at 2100–2250 psi/140 bar.

INSTALLING ADAPTERS

1. The post hammer is designed to drive No. 1 through No. 4 sign post, 2-1/2 inch square and up to 2-5/8 inch diameter round post without requiring adapters. If you are driving one of these types of post, orient the post into the tightest fit in the post driver foot.
2. If you are driving smaller square or round post, insert the adapter to the post driver foot using two ½-hex head capscrews.

CONNECTING HOSES

1. Wipe all hose couplers with a clean, lint-free cloth before making connections.
2. Connect the hoses from the hydraulic power source to the tool fittings or quick disconnects. It is a good practice to connect return hoses first and disconnect them last to minimize or avoid trapped pressure within the tool.
3. If hose couplers are used, observe the arrow on the coupler to ensure that the flow is in the proper direction. The female coupler on the tool hose is the inlet (pressure) coupler.
4. Move the hydraulic power source On/Off control valve to the **ON** position to operate the tool.

NOTE:

If uncoupled hoses are left in the sun, pressure increase inside the hoses may make them difficult to connect. When possible, connect the free ends of the operating hoses together.

TOOL OPERATION

1. Observe all safety precautions.
2. Install the appropriate adapter as required.
3. Place the post driver foot firmly on the surface to be driven.
4. Press the lever assembly on handle to start the post driver.

NOTE:

On Remote ON/OFF Valve Models Place the post driver on/off control valve in The ON position to start the post driver.

NOTE:

Adequate down pressure is very important.

5. When the post is fully set in the ground, release the lever assembly on handle.

COLD WEATHER OPERATION

If the post hammer is to be used during cold weather, preheat the hydraulic fluid at low engine speed. When using the normally recommended fluid, fluid temperature should be at or above 50°F/10°C (400 ssu/82 centistrokes) before use.

Damage to the hydraulic system or post driver can result from use with fluid that is too viscous or thick.

CHARGING THE ACCUMULATOR

ACCUMULATOR TESTING PROCEDURE

To check or charge the accumulator the following equipment is required:

- Accumulator Tester (Part Number 02835).
- Charging Kit Assembly (P/N 31254); (includes a regulator, hose and fittings).
- NITROGEN bottle with an 800 psi/56 bar minimum charge.

1. Remove the charging valve plug from the post driver.
2. Holding the chuck end of Stanley tester (P/N 02835), turn the gauge fully counter-clockwise to ensure the stem inside the chuck is completely retracted.
3. Thread the tester onto the charging valve of the tool accumulator (do not advance the gauge-end into the chuck end; turn as a unit). Seat the chuck on the accumulator charging valve and hand tighten only.
4. Advance the valve stem by turning the gauge-end clockwise until pressure is read on the gauge (charging pressure should be 500–700 psi/34–38 bar).
5. If pressure is OK unscrew the gauge-end from the chuck to retract the stem, then unscrew the entire tester assembly from the tool accumulator charging valve. If pressure is low, charge the accumulator as described in the following section.
6. Install the charging valve cap (or plug).

ACCUMULATOR CHARGING PROCEDURE

1. Perform Steps 1 through 4 of the Accumulator Testing Procedure above.
2. Connect the chuck of the charging assembly to the charging valve on the accumulator tester or, if preferred, remove the tester from the tool charging valve and connect the charging assembly chuck directly to the tool charging valve.
3. Adjust the regulator to the charging pressure of 600 psi/42 bar.

NOTE:

It may be necessary to set the regulator at 650–700 psi/45–48 bar to overcome any pressure drop through the charging system.

4. Open the valve on the charging assembly hose.
5. When the accumulator is fully charged close the valve on the charging assembly hose and remove the charging assembly chuck from the accumulator tester of tool charging valve.
6. If the accumulator tester has been used, be sure to turn the gauge-end fully counterclockwise before removing the tester from the charging valve of the tool.
7. Replace the O-ring plug.

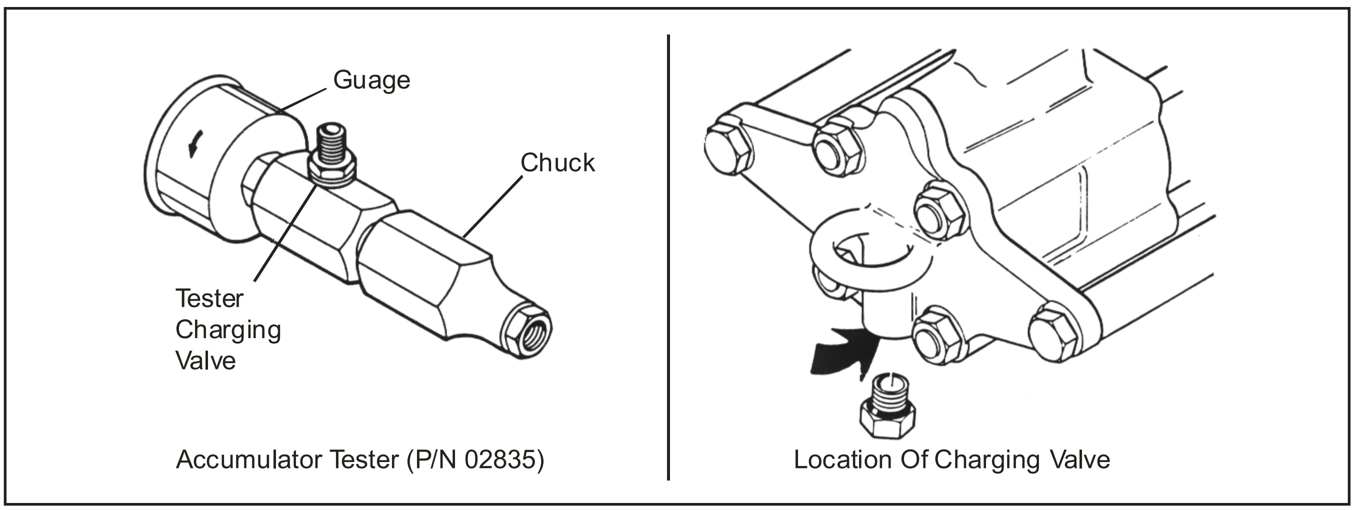


Figure 2. Charging the Accumulator

TOOL PROTECTION & CARE

NOTICE

In addition to the Safety Precautions found in this manual, observe the following for equipment protection and care.

- Make sure all couplers are wiped clean before connection.
- The hydraulic circuit control valve must be in the **OFF** position when coupling or uncoupling hydraulic tools. Failure to do so may result in damage to the quick couplers and cause overheating of the hydraulic system.
- Always store the tool in a clean dry space, safe from damage or pilferage.
- Make sure the circuit PRESSURE hose (with male quick disconnect) is connected to the **IN** port. The circuit RETURN hose (with female quick disconnect) is connected to the opposite port. Do not reverse circuit flow. This can cause damage to internal seals.
- Always replace hoses, couplings and other parts with replacement parts recommended by Stanley Hydraulic Tools. Supply hoses must have a minimum working pressure rating of 2500 psi/172 bar.
- Do not exceed the rated flow (see Specifications) in this manual for correct flow rate and model number. Rapid failure of the internal seals may result.
- Always keep critical tool markings, such as warning stickers and tags legible.
- Do not use the tool for applications it was not designed for.
- Tool repair should be performed by experienced personnel only.
- Make certain that the recommended relief valves are installed in the pressure side of the system.
- Do not use the tool for applications for which it was not intended.

TROUBLESHOOTING

If symptoms of poor performance develop, the following chart can be used as a guide to correct the problem.

When diagnosing faults in operation of the tool, always make sure the hydraulic power source is supplying the correct hydraulic flow and pressure as listed in the table. Use a flowmeter know to be accurate. Check the flow with the hydraulic fluid temperature at least 80 °F/27 °C.

PROBLEM	CAUSE	SOLUTION
Tool does not run.	Power unit not functioning.	Check power source for proper flow and pressure (7–9 gpm/26–34 lpm, 2000 psi/140 bar).
	Couplers or hoses blocked.	Remove restriction.
	Pressure and return line hoses reversed at ports.	Be sure hoses are connected to their proper ports.
	Mechanical failure of piston or automatic valve.	Disassemble post driver and inspect for damaged parts.
Tool does not hit effectively.	Low accumulator charge (pressure hose will pulse more than normal).	Recharge accumulator. Replace diaphragm if charge loss continues
	Power unit not functioning.	Check power unit for proper flow and pressure (7–9 gpm/26–34 lpm, 2000 psi/140 bar).
	Couplers or hoses blocked.	Remove restriction.
	Fluid too hot (above 140 °F/60 °C).	Provide cooler to maintain proper oil temperature (130 °F/55 °C maximum).
	The anvil is not sliding freely in the post driver foot.	Remove, clean, lubricate and replace anvil as required.
Tool operates slowly.	Low gpm supply from power unit.	Check power source for proper flow (7–9 gpm/26-64 lpm).
	High back-pressure.	Check hydraulic system for excessive back-pressure (over 250 psi/17 bar).
	Couplers or hoses blocked.	Remove restriction.
	Orifice blocked.	Remove restriction.
	Fluid too hot (above 140 °F/60 °C) or too cold (below 60 °F/16 °C).	Check power source for proper fluid temperature. Bypass cooler to warm fluid up or provide cooler to maintain proper temperature.
	Relief valve set too low.	Adjust relief valve to 2100–2250 psi/145–155 bar.
	The anvil is not sliding freely in the post driver foot.	Remove, clean, lubricate and replace as required.
Tool gets hot.	Hot fluid going through tool.	Check power unit. Be sure flow rate is not too high causing part of the fluid to go through the relief valve. Provide cooler to maintain proper fluid temperature (140 °F/60 °C max).
		Check relief valve setting.
		Eliminate flow control devices.
Oil leakage on post.	Lower piston seal failure.	Replace seal.

SPECIFICATIONS

Weight (Standard) .... 65 lbs/29.5 kg
Weight (Extended anvil) .... 71 lbs/32 kg.
Pressure Range.. 2000 psi/140 bar
Flow Range .... 7-9 gpm/26-34 Imp
Optimum Flow .... 8 gpm/30 lpm
HTMA Class II .... 7-9 gpm @ 2000 psi
Couplers .... HTMA Flush Face
Per NFPA T3.20.15/ISO 16028
Connect Size .... 3/8 female pipe
Length.. 30 in./76 cm
Width (Across Handles).. 10-1/8 in./25.7 cm
System Type.. open center
Port Size .... SAE 8 O-ring
Hose Whips .... Yes
Capacity.. #2, #3 and #4 lb/ft
U Channel Sign Post
#3 and #4 Strong Back (Heavy Duty)
U Channel Sign Post
#1 Delineator Post
2-1/2 in./63.5 mm Square Post
2-5/8 in./67 mm Round Post

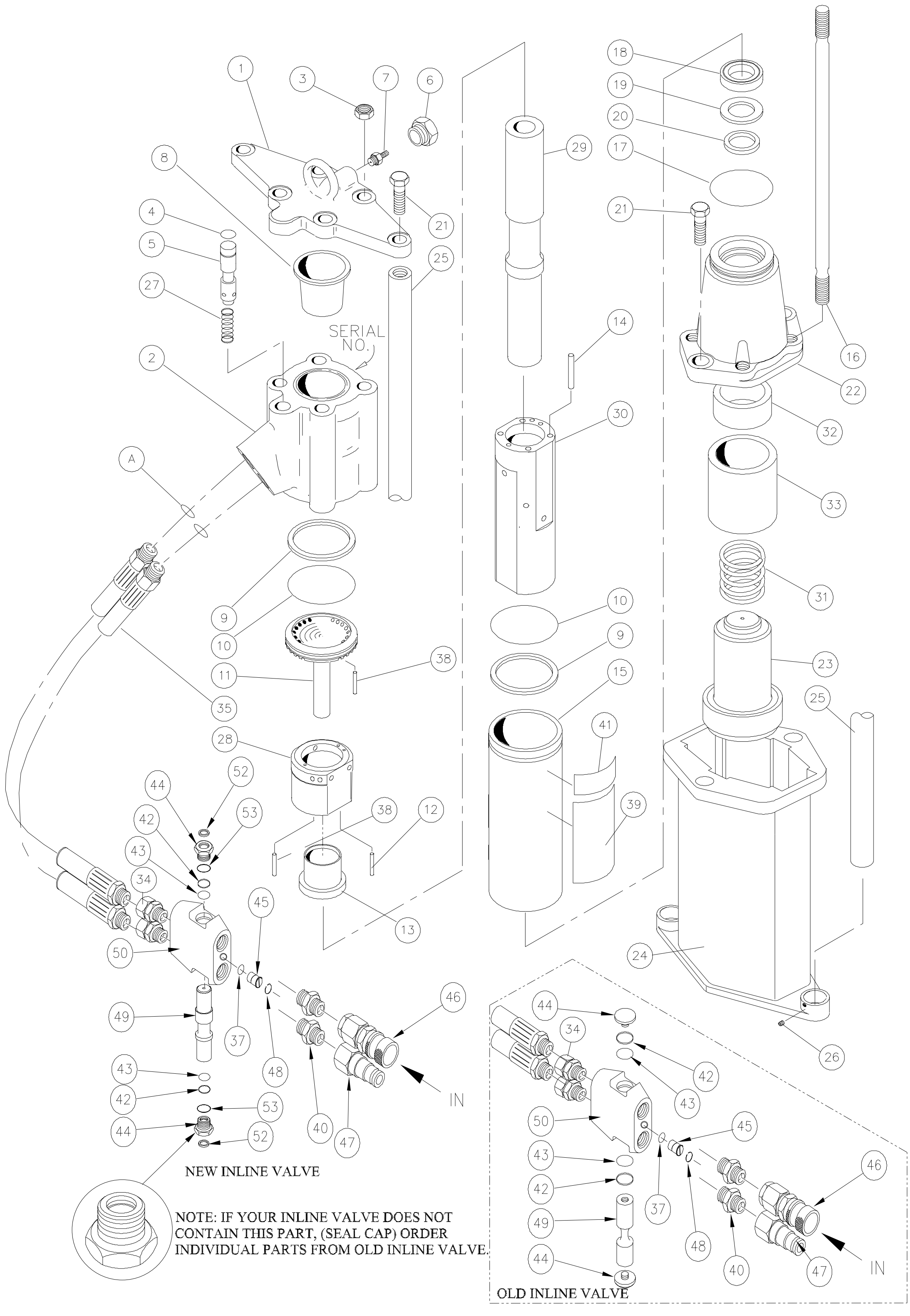
ACCESSORIES (SEE PAGE 18)

Adapter, 1-3/4 in. Square Post 15184
Adapter, 2 in. Round Pipe.. 15185
Adapter, 2-1/4 in. Square Post 15186
Adapter, 2 in. Square Post.. 15187

SERVICE TOOLS

Tamper Sleeve Tool 01120
O-ring Tool Kit.. 04337
Flow Sleeve Removal Tube.. 04910
Flow Sleeve Removal Tool 04919
Accumulator Cylinder Puller 05640

PD45131 PARTS ILLUSTRATION



PD45131 PARTS LIST

ITEM	PART NO.	QTY	DESCRIPTION
1	15190	1	TOP PLATE
2	11588	1	ACCUMULATOR VALVE BLOCK
3	04374	4	LOCK NUT 5/8-18
4	00293	1	O-RING
5	15188	1	VALVE SPOOL
6	07493	1	MALE O-RING PLUG
7	20499	1	CHARGE VALVE
8	07479	1	ACCUMULATOR DIAPHRAGM
9	04381	2	BACK-UP RING
10	04379	2	O-RING
11	04378	1	PORTING BLOCK
12	04571	2	PUSH PIN
13	04382	1	AUTOMATIC VALVE
14	04605	4	PUSH PIN
15	04383	1	FLOW SLEEVE TUBE
16	12139	4	SIDE ROD
17	02022	1	O-RING
18	04386	1	CUP SEAL
19	04780	1	WASHER
20	04387	1	ROD WIPER
21	370351	4	CAPSCREW
22	15191	1	ADAPTER BLOCK
23	15189	1	ANVIL
24	15170	1	POST DRIVER FOOT
25	15182	2	HANDLE BAR
26	15194	2	SET SCREW, 3/8-16 × 1/2 HSH
27	04058	1	SPRING
28	07480	1	AUTOMATIC VALVE BODY
29	07481	1	PISTON
30	07485	1	FLOW SLEEVE
31	12146	1	SPRING
32	12143	1	UPPER ANVIL STOP
33	15183	1	ANVIL BUSHING
34	00856	2	1/2 INCH SAE TO 1/2 INCH TUBE
35	66722	2	HOSE ASSY (PD45131 & PD4513103)
	35784	2	HOSE ASSY (PD45131J)
36	—	—	NO ITEM
37	00026	1	O-RING
38	02900	2	ROLL PIN
39	15197	1	PD45 NAME TAG
40	00936	2	ADAPTER
41	19693	1	DANGER STICKER
42	13568	2	BACK UP RING (OLD INLINE VALVE)
	07224	2	BACK UP RING (NEW INLINE VALVE)
43	13567	2	O-RING (OLD INLINE VALVE)

ITEM	PART NO.	QTY	DESCRIPTION
	07626	2	O-RING (NEW INLINE VALVE)
44	01003	2	ON-OFF VALVE BUTTON (OLD INLINE VALVE)
	56749	2	SEAL CAP (NEW INLINE VALVE)
45	10536	1	SELECTOR SCREW
46	03972	1	FEMALE COUPLER 3/8 NPT
47	03973	1	MALE COUPLER 3/8 NPT
48	16070	1	RETAINING RING
49	38631	1	VALVE SPOOL (OLD INLINE VALVE)
	67008	1	VALVE SPOOL (NEW INLINE VALVE)
50	38629	1	VALVE BODY ASSY (OLD INLINE VALVE)
	67007	1	VALVE BODY ASSY (NEW INLINE VALVE)
51	11499	2	ADAPTOR 1/2 INCH SAE–3/8 NPTF
52	56747	2	SEAL WIPER
53	01604	2	O-RING
	04595		SEAL KIT

For Post Adaptors (See Page 18).

Read Before Ordering Inline Valve Parts:

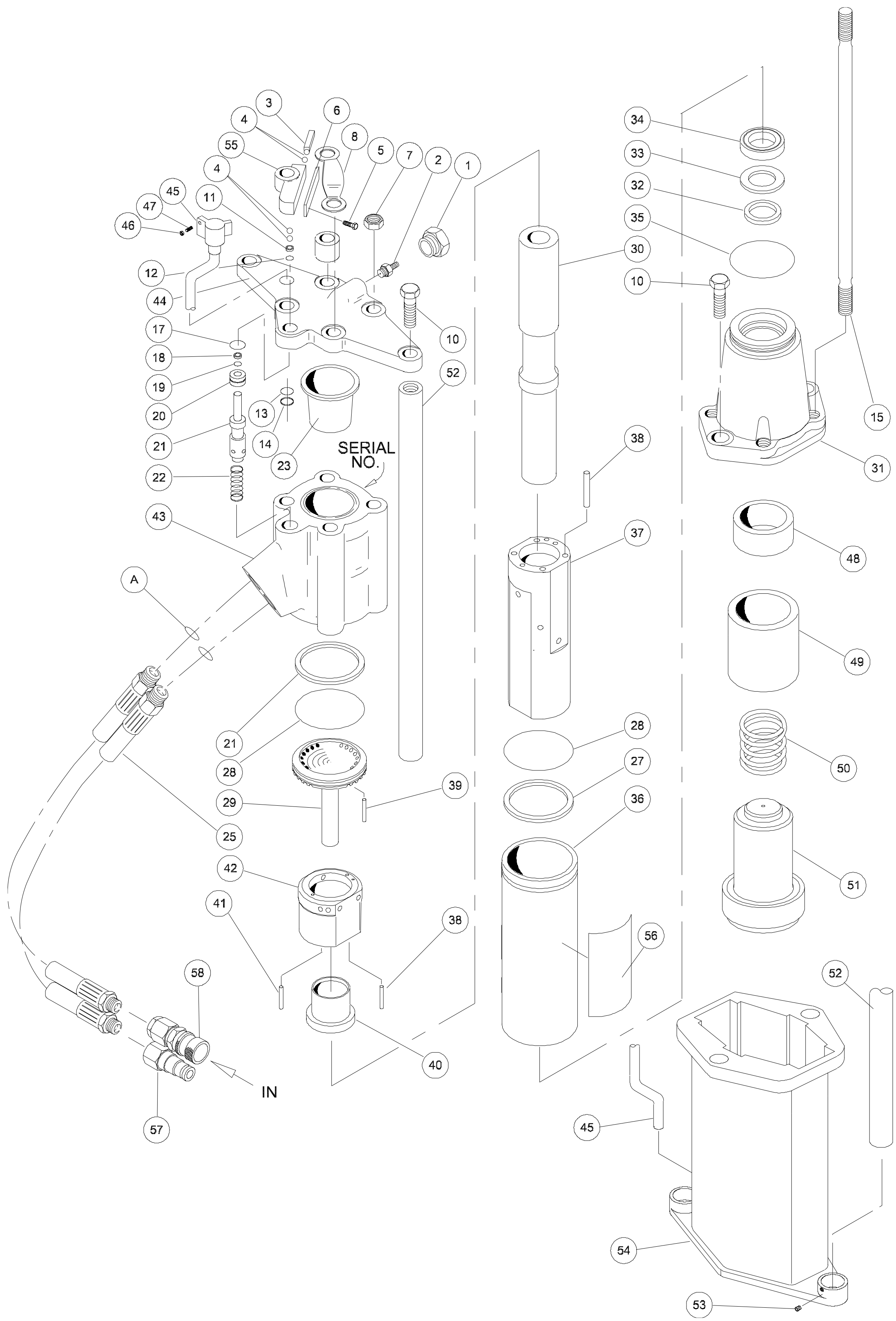
Inline Valve Assembly (OC-CC) - 72264

Includes Items (37, 42 thur 45, thru 50, 52, and 53)

The inline valve changed around June 2011. To determine if you have the old or new inline valve, see parts illustration.

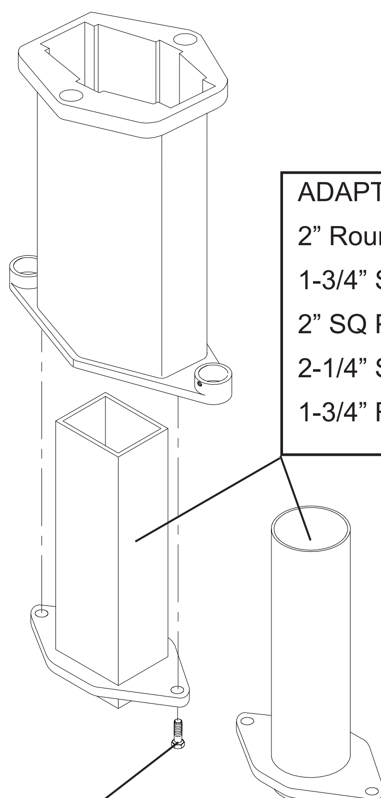
NOTE: Individual parts are still available for the older inline valve but if replacing the entire inline valve assy, you must order the new inline valve assy P/N-72264.

PD45132 PARTS ILLUSTRATION



PD45132 PARTS LIST

ITEM	PART NO.	QTY	DESCRIPTION
1	07493	1	O-RING PLUG–MALE
2	20499	1	CHARGE VALVE
3	20387	1	PLUNGER
4	12100	4	STEEL BALL 3/8 DIA.
5	00899	2	HHCS 1/4-20 UNC × 1/2 GR5
6	20386	1	COVER PLATE
7	04374	4	LOCK NUT 5/8-18
8	20390	1	LIFT STRAP
9	20384	1	SPACER
10	370351	4	HHCS 5/8-11 UNC × 1-3/4
11	20385	1	PILOT RING
12	02003	1	O-RING
13	20398	1	SUPPORT WASHER 3/4
14	08016	1	RETAINING RING 3/4 EXT
15	12139	2	SIDE ROD
16	08087	2	SIDE ROD
17	00293	1	O-RING
18	04056	1	ROD WIPER 5/16 × 9/16
19	01362	1	O-RING
20	04057	1	BUSHING
21	04077	1	VALVE SPOOL OC
22	04058	1	SPRING
23	07479	1	ACCUMULATOR DIAPHRAGM
24	—	—	NO ITEM
25	09546	2	PIGTAIL HOSE ASSY–18 IN. OAL
26	—	—	NO ITEM
27	04381	2	BACK-UP RING
28	04379	2	O-RING
29	04378	1	PORTING BLOCK
30	07481	1	PISTON
31	15191	1	ADAPTOR BLOCK
32	04387	1	ROD WIPER
33	04780	1	BACK-UP WASHER
34	04386	1	CUP SEAL
35	02022	1	O-RING
36	04383	1	FLOW SLEEVE TUBE
37	07485	1	FLOW SLEEVE
38	04605	4	PUSH PIN
39	02900	2	ROLL PIN
40	04382	1	AUTOMATIC VALVE
41	04571	2	PUSH PIN
42	07480	1	AUTOMATIC VALVE BODY
43	11588	1	ACCUMULATOR VALVE BLOCK
44	20396	1	VALVE TOP PLATE
45	20392	1	TRIGGER ASSY
46	00038	1	NUT 1/4-20 PLAIN
47	20399	1	OVAL PT SET SCREW 1/4
48	12143	1	UPPER ANVIL STOP
49	15183	1	ANVIL BUSHING
50	12146	1	SPRING
51	15189	1	ANVIL
52	15182	2	HANDLE BAR
53	15194	2	SET SCREW
54	15170	1	POST DRIVER FOOT
55	20388	1	VALVE ACTUATOR HOUSING
56	15197	1	PD45 NAME TAG
57	03973	1	MALE COUPLER
58	03972	1	FEMALE COUPLER
	04595	1	SEAL KIT



ADAPTORS:
2” Round Post P/N-15185
1-3/4” SQ Post P/N- 15184
2” SQ Post P/N- 15187
2-1/4” SQ Post P/N- 15186
1-3/4” Round P/N- 67784

1/2-13 UNC x 1.250” Hex Head Capscrew (GR-5 Minimum)
P/N- 04661
Clean ID/OD of threads,
apply 242 Loctite or equivalent, torque to 50 ft-lb.

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